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**Subpart A—General****§ 15.1 Scope of this part.**

(a) This part sets out the regulations under which an intentional, unintentional, or incidental radiator may be operated without an individual license. It also contains the technical specifications, administrative requirements and other conditions relating to the marketing of part 15 devices.

(b) The operation of an intentional or unintentional radiator that is not in accordance with the regulations in this part must be licensed pursuant to the provisions of section 301 of the Communications Act of 1934, as amended, unless otherwise exempted from the li-

censing requirements elsewhere in this chapter.

(c) Unless specifically exempted, the operation or marketing of an intentional or unintentional radiator that is not in compliance with the administrative and technical provisions in this part, including prior Commission authorization or verification, as appropriate, is prohibited under section 302 of the Communications Act of 1934, as amended, and subpart I of part 2 of this chapter. The equipment authorization and verification procedures are detailed in subpart J of part 2 of this chapter.

**§ 15.3 Definitions.**

(a) *Auditory assistance device.* An intentional radiator used to provide auditory assistance communications (including but not limited to applications such as assistive listening, auricular training, audio description for the blind, and simultaneous language translation) for:

(1) Persons with disabilities: In the context of part 15 rules (47 CFR part 15), the term “disability,” with respect to the individual, has the meaning given to it by section 3(2)(A) of the Americans with Disabilities Act of 1990 (42 U.S.C. 12102(2)(A)), *i.e.*, a physical or mental impairment that substantially limits one or more of the major life activities of such individuals;

(2) Persons who require language translation; or

(3) Persons who may otherwise benefit from auditory assistance communications in places of public gatherings, such as a church, theater, auditorium, or educational institution.

(b) *Biomedical telemetry device.* An intentional radiator used to transmit measurements of either human or animal biomedical phenomena to a receiver.

(c) *Cable input selector switch.* A transfer switch that is intended as a means to alternate between the reception of broadcast signals via connection to an antenna and the reception of cable television service.

(d) *Cable locating equipment.* An intentional radiator used intermittently by trained operators to locate buried cables, lines, pipes, and similar structures or elements. Operation entails

coupling a radio frequency signal onto the cable, pipes, etc. and using a receiver to detect the location of that structure or element.

(e) *Cable system terminal device (CSTD)*. A TV interface device that serves, as its primary function, to connect a cable system operated under part 76 of this chapter to a TV broadcast receiver or other subscriber premise equipment. Any device which functions as a CSTD in one of its operating modes must comply with the technical requirements for such devices when operating in that mode.

(f) *Carrier current system*. A system, or part of a system, that transmits radio frequency energy by conduction over the electric power lines. A carrier current system can be designed such that the signals are received by conduction directly from connection to the electric power lines (unintentional radiator) or the signals are received over-the-air due to radiation of the radio frequency signals from the electric power lines (intentional radiator).

(g) *CB receiver*. Any receiver that operates in the Personal Radio Services on frequencies allocated for Citizens Band (CB) Radio Service stations, as well as any receiver provided with a separate band specifically designed to receive the transmissions of CB stations in the Personal Radio Services. This includes the following: (1) A CB receiver sold as a separate unit of equipment; (2) the receiver section of a CB transceiver; (3) a converter to be used with any receiver for the purpose of receiving CB transmissions; and, (4) a multiband receiver that includes a band labelled "CB" or "11-meter" in which such band can be separately selected, except that an Amateur Radio Service receiver that was manufactured prior to January 1, 1960, and which includes an 11-meter band shall not be considered to be a CB receiver.

(h) *Class A digital device*. A digital device that is marketed for use in a commercial, industrial or business environment, exclusive of a device which is marketed for use by the general public or is intended to be used in the home.

(i) *Class B digital device*. A digital device that is marketed for use in a residential environment notwithstanding use in commercial, business and indus-

trial environments. Examples of such devices include, but are not limited to, personal computers, calculators, and similar electronic devices that are marketed for use by the general public.

NOTE: The responsible party may also qualify a device intended to be marketed in a commercial, business or industrial environment as a Class B device, and in fact is encouraged to do so, provided the device complies with the technical specifications for a Class B digital device. In the event that a particular type of device has been found to repeatedly cause harmful interference to radio communications, the Commission may classify such a digital device as a Class B digital device, regardless of its intended use.

(j) *Cordless telephone system*. A system consisting of two transceivers, one a base station that connects to the public switched telephone network and the other a mobile handset unit that communicates directly with the base station. Transmissions from the mobile unit are received by the base station and then placed on the public switched telephone network. Information received from the switched telephone network is transmitted by the base station to the mobile unit.

NOTE: The Domestic Public Cellular Radio Telecommunications Service is considered to be part of the switched telephone network. In addition, intercom and paging operations are permitted provided these are not intended to be the primary modes of operation.

(k) *Digital device*. (Previously defined as a computing device). An unintentional radiator (device or system) that generates and uses timing signals or pulses at a rate in excess of 9,000 pulses (cycles) per second and uses digital techniques; inclusive of telephone equipment that uses digital techniques or any device or system that generates and uses radio frequency energy for the purpose of performing data processing functions, such as electronic computations, operations, transformations, recording, filing, sorting, storage, retrieval, or transfer. A radio frequency device that is specifically subject to an emanation requirement in any other FCC Rule part or an intentional radiator subject to subpart C of this part that contains a digital device is not subject to the standards for digital devices, provided the digital device is used only to enable operation of the

radio frequency device and the digital device does not control additional functions or capabilities.

NOTE: Computer terminals and peripherals that are intended to be connected to a computer are digital devices.

(l) *Field disturbance sensor*. A device that establishes a radio frequency field in its vicinity and detects changes in that field resulting from the movement of persons or objects within its range.

(m) *Harmful interference*. Any emission, radiation or induction that endangers the functioning of a radio navigation service or of other safety services or seriously degrades, obstructs or repeatedly interrupts a radiocommunications service operating in accordance with this chapter.

(n) *Incidental radiator*. A device that generates radio frequency energy during the course of its operation although the device is not intentionally designed to generate or emit radio frequency energy. Examples of incidental radiators are dc motors, mechanical light switches, etc.

(o) *Intentional radiator*. A device that intentionally generates and emits radio frequency energy by radiation or induction.

(p) *Kit*. Any number of electronic parts, usually provided with a schematic diagram or printed circuit board, which, when assembled in accordance with instructions, results in a device subject to the regulations in this part, even if additional parts of any type are required to complete assembly.

(q) *Perimeter protection system*. A field disturbance sensor that employs RF transmission lines as the radiating source. These RF transmission lines are installed in such a manner that allows the system to detect movement within the protected area.

(r) *Peripheral device*. An input/output unit of a system that feeds data into and/or receives data from the central processing unit of a digital device. Peripherals to a digital device include any device that is connected external to the digital device, any device internal to the digital device that connects the digital device to an external device by wire or cable, and any circuit board designed for interchangeable mounting, internally or externally, that increases the operating or processing

speed of a digital device, e.g., “turbo” cards and “enhancement” boards. Examples of peripheral devices include terminals, printers, external floppy disk drives and other data storage devices, video monitors, keyboards, interface boards, external memory expansion cards, and other input/output devices that may or may not contain digital circuitry. This definition does not include CPU boards, as defined in paragraph (bb) of this section, even though a CPU board may connect to an external keyboard or other components.

(s) *Personal computer*. An electronic computer that is marketed for use in the home, notwithstanding business applications. Such computers are considered Class B digital devices. Computers which use a standard TV receiver as a display device or meet all of the following conditions are considered examples of personal computers:

(1) Marketed through a retail outlet or direct mail order catalog.

(2) Notices of sale or advertisements are distributed or directed to the general public or hobbyist users rather than restricted to commercial users.

(3) Operates on a battery or 120 volt electrical supply.

If the responsible party can demonstrate that because of price or performance the computer is not suitable for residential or hobbyist use, it may request that the computer be considered to fall outside of the scope of this definition for personal computers.

(t) *Power line carrier systems*. An unintentional radiator employed as a carrier current system used by an electric power utility entity on transmission lines for protective relaying, telemetry, etc. for general supervision of the power system. The system operates by the transmission of radio frequency energy by conduction over the electric power transmission lines of the system. The system does not include those electric lines which connect the distribution substation to the customer or house wiring.

(u) *Radio frequency (RF) energy*. Electromagnetic energy at any frequency in the radio spectrum between 9 kHz and 3,000,000 MHz.

(v) *Scanning receiver*. For the purpose of this part, this is a receiver that automatically switches among two or

more frequencies in the range of 30 to 960 MHz and that is capable of stopping at and receiving a radio signal detected on a frequency. Receivers designed solely for the reception of the broadcast signals under part 73 of this chapter, for the reception of NOAA broadcast weather band signals, or for operation as part of a licensed service are not included in this definition.

(w) *Television (TV) broadcast receiver.* A device designed to receive television pictures that are broadcast simultaneously with sound on the television channels authorized under part 73 of this chapter.

(x) *Transfer switch.* A device used to alternate between the reception of over-the-air radio frequency signals via connection to an antenna and the reception of radio frequency signals received by any other method, such as from a TV interface device.

(y) *TV interface device.* An unintentional radiator that produces or translates in frequency a radio frequency carrier modulated by a video signal derived from an external or internal signal source, and which feeds the modulated radio frequency energy by conduction to the antenna terminals or other non-baseband input connections of a television broadcast receiver. A TV interface device may include a stand-alone RF modulator, or a composite device consisting of an RF modulator, video source and other components devices. Examples of TV interface devices are video cassette recorders and terminal devices attached to a cable system or used with a Master Antenna (including those used for central distribution video devices in apartment or office buildings).

(z) *Unintentional radiator.* A device that intentionally generates radio frequency energy for use within the device, or that sends radio frequency signals by conduction to associated equipment via connecting wiring, but which is not intended to emit RF energy by radiation or induction.

(aa) *Cable ready consumer electronics equipment.* Consumer electronics TV receiving devices, including TV receivers, videocassette recorders and similar devices, that incorporate a tuner capable of receiving television signals and an input terminal intended for receiving

cable television service, and are marketed as “cable ready” or “cable compatible.” Such equipment shall comply with the technical standards specified in §15.118 and the provisions of §15.19(d).

(bb) *CPU board.* A circuit board that contains a microprocessor, or frequency determining circuitry for the microprocessor, the primary function of which is to execute user-provided programming, but not including:

(1) A circuit board that contains only a microprocessor intended to operate under the primary control or instruction of a microprocessor external to such a circuit board; or

(2) A circuit board that is a dedicated controller for a storage or input/output device.

(cc) *External radio frequency power amplifier.* A device which is not an integral part of an intentional radiator as manufactured and which, when used in conjunction with an intentional radiator as a signal source, is capable of amplifying that signal.

(dd) *Test equipment* is defined as equipment that is intended primarily for purposes of performing measurements or scientific investigations. Such equipment includes, but is not limited to, field strength meters, spectrum analyzers, and modulation monitors.

(ee) *Radar detector.* A receiver designed to signal the presence of radio signals used for determining the speed of motor vehicles. This definition does not encompass the receiver incorporated within a radar transceiver certified under the Commission’s rules.

(ff) *Access Broadband over Power Line (Access BPL).* A carrier current system installed and operated on an electric utility service as an unintentional radiator that sends radio frequency energy on frequencies between 1.705 MHz and 80 MHz over medium voltage lines or over low voltage lines to provide broadband communications and is located on the supply side of the utility service’s points of interconnection with customer premises. Access BPL does not include power line carrier systems as defined in §15.3(t) or In-House BPL as defined in §15.3(gg).

(gg) *In-House Broadband over Power Line (In-House BPL).* A carrier current

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system, operating as an unintentional radiator, that sends radio frequency energy by conduction over electric power lines that are not owned, operated or controlled by an electric service provider. The electric power lines may be aerial (overhead), underground, or inside the walls, floors or ceilings of user premises. In-House BPL devices may establish closed networks within a user’s premises or provide connections to Access BPL networks, or both.

(hh) *Slant-Range distance.* Diagonal distance measured from the center of the measurement antenna to the nearest point of the overhead power line carrying the Access BPL signal being measured. This distance is equal to the hypotenuse of the right triangle as calculated in the formula below. The slant-range distance shall be calculated as follows:

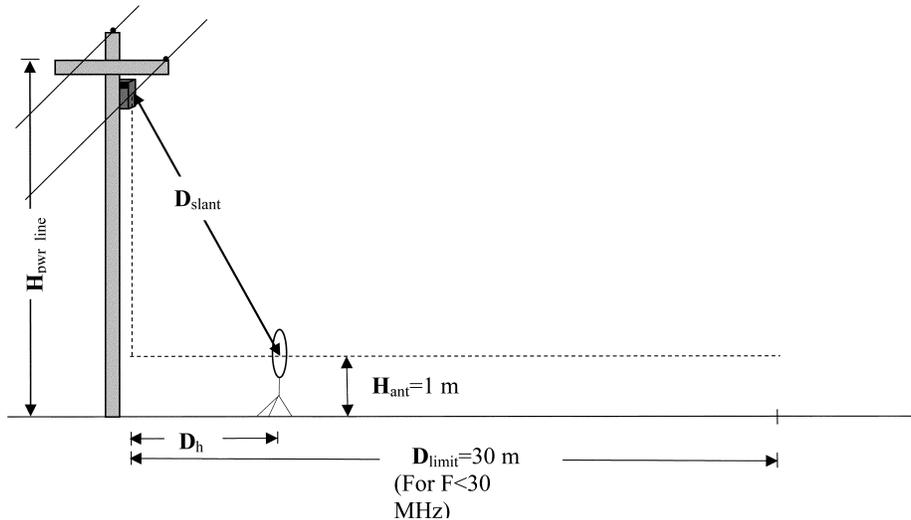
$$d_{slant} = \sqrt{(h_{pwr\_line} - h_{ant})^2 + (d_h)^2}$$

Where:

$d_{slant}$  is the slant-range distance, in meters (see Figure 1, below);  
 $d_h$  is the horizontal (lateral) distance between the center of the measurement antenna and the vertical projection of the

overhead power line carrying the BPL signals down to the height of the measurement antenna, in meters;  
 $h_{pwr\_line}$  is the height of the power line, in meters; and  
 $h_{ant}$  is the measurement antenna height, in meters.

Figure 1 – Illustration of Slant-Range Distance



$D_{slant}$  is the slant-range distance, in meters;  
 $D_h$  is the horizontal (lateral) distance between the center of the measurement antenna and the vertical projection of the overhead power line carrying the BPL

signals down to the height of the measurement antenna, in meters;  
 $D_{limit}$  is the distance at which the emission limit is specified in Part 15 (e.g., 30 meters for frequencies below 30 MHz);

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$H_{\text{pwr-line}}$  is the height of the power line, in meters; and

$H_{\text{ant}}$  is the measurement antenna height, in meters.

(ii) *Level Probing Radar (LPR)*: A short-range radar transmitter used in a wide range of applications to measure the amount of various substances, mostly liquids or granulates. LPR equipment may operate in open-air environments or inside an enclosure containing the substance being measured.

[54 FR 17714, Apr. 25, 1989, as amended at 55 FR 18340, May 2, 1990; 57 FR 33448, July 29, 1992; 59 FR 25340, May 16, 1994; 61 FR 31048, June 19, 1996; 62 FR 26242, May 13, 1997; 64 FR 22561, Apr. 27, 1999; 65 FR 64391, Oct. 27, 2000; 66 FR 32582, June 15, 2001; 67 FR 48993, July 29, 2002; 70 FR 1373, Jan. 7, 2005; 76 FR 71907, Nov. 21, 2011; 78 FR 34927, June 11, 2013; 79 FR 12677, Mar. 6, 2014]

### § 15.5 General conditions of operation.

(a) Persons operating intentional or unintentional radiators shall not be deemed to have any vested or recognizable right to continued use of any given frequency by virtue of prior registration or certification of equipment, or, for power line carrier systems, on the basis of prior notification of use pursuant to § 90.35(g) of this chapter.

(b) Operation of an intentional, unintentional, or incidental radiator is subject to the conditions that no harmful interference is caused and that interference must be accepted that may be caused by the operation of an authorized radio station, by another intentional or unintentional radiator, by industrial, scientific and medical (ISM) equipment, or by an incidental radiator.

(c) The operator of a radio frequency device shall be required to cease operating the device upon notification by a Commission representative that the device is causing harmful interference. Operation shall not resume until the condition causing the harmful interference has been corrected.

(d) Intentional radiators that produce Class B emissions (damped wave) are prohibited.

[54 FR 17714, Apr. 25, 1989, as amended at 75 FR 63031, Oct. 13, 2010]

### § 15.7 [Reserved]

### § 15.9 Prohibition against eavesdropping.

Except for the operations of law enforcement officers conducted under lawful authority, no person shall use, either directly or indirectly, a device operated pursuant to the provisions of this part for the purpose of overhearing or recording the private conversations of others unless such use is authorized by all of the parties engaging in the conversation.

### § 15.11 Cross reference.

The provisions of subparts A, H, I, J and K of part 2 apply to intentional and unintentional radiators, in addition to the provisions of this part. Also, a cable system terminal device and a cable input selector switch shall be subject to the relevant provisions of part 76 of this chapter.

### § 15.13 Incidental radiators.

Manufacturers of these devices shall employ good engineering practices to minimize the risk of harmful interference.

### § 15.15 General technical requirements.

(a) An intentional or unintentional radiator shall be constructed in accordance with good engineering design and manufacturing practice. Emanations from the device shall be suppressed as much as practicable, but in no case shall the emanations exceed the levels specified in these rules.

(b) Except as follows, an intentional or unintentional radiator must be constructed such that the adjustments of any control that is readily accessible by or intended to be accessible to the user will not cause operation of the device in violation of the regulations. Access BPL equipment shall comply with the applicable standards at the control adjustment that is employed. The measurement report used in support of an application for Certification and the user instructions for Access BPL equipment shall clearly specify the user-or installer-control settings that are required for conformance with these regulations.

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(c) Parties responsible for equipment compliance should note that the limits specified in this part will not prevent harmful interference under all circumstances. Since the operators of part 15 devices are required to cease operation should harmful interference occur to authorized users of the radio frequency spectrum, the parties responsible for equipment compliance are encouraged to employ the minimum field strength necessary for communications, to provide greater attenuation of unwanted emissions than required by these regulations, and to advise the user as to how to resolve harmful interference problems (for example, see §15.105(b)).

[54 FR 17714, Apr. 25, 1989, as amended at 70 FR 1373, Jan. 7, 2005]

### § 15.17 Susceptibility to interference.

(a) Parties responsible for equipment compliance are advised to consider the proximity and the high power of non-Government licensed radio stations, such as broadcast, amateur, land mobile, and non-geostationary mobile satellite feeder link earth stations, and of U.S. Government radio stations, which could include high-powered radar systems, when choosing operating frequencies during the design of their equipment so as to reduce the susceptibility for receiving harmful interference. Information on non-Government use of the spectrum can be obtained by consulting the Table of Frequency Allocations in §2.106 of this chapter.

(b) Information on U.S. Government operations can be obtained by contacting: Director, Spectrum Plans and Policy, National Telecommunications and Information Administration, Department of Commerce, Room 4096, Washington, DC 20230.

[54 FR 17714, Apr. 25, 1989, as amended at 62 FR 4655, Jan. 31, 1997; 63 FR 40835, July 31, 1998]

### § 15.19 Labelling requirements.

(a) In addition to the requirements in part 2 of this chapter, a device subject to certification, or verification shall be labelled as follows:

(1) Receivers associated with the operation of a licensed radio service, e.g.,

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FM broadcast under part 73 of this chapter, land mobile operation under part 90, etc., shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

(2) A stand-alone cable input selector switch, shall bear the following statement in a conspicuous location on the device:

This device is verified to comply with part 15 of the FCC Rules for use with cable television service.

(3) All other devices shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

(4) Where a device is constructed in two or more sections connected by wires and marketed together, the statement specified under paragraph (a) of this section is required to be affixed only to the main control unit.

(5) When the device is so small or for such use that it is not practicable to place the statement specified under paragraph (a) of this section on it, the information required by this paragraph shall be placed in a prominent location in the instruction manual or pamphlet supplied to the user or, alternatively, shall be placed on the container in which the device is marketed. However, the FCC identifier or the unique identifier, as appropriate, must be displayed on the device.

(b) Products subject to authorization under a Declaration of Conformity shall be labelled as follows:

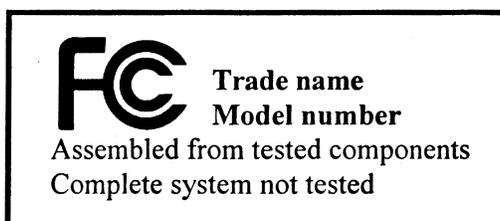
(1) The label shall be located in a conspicuous location on the device and shall contain the unique identification described in §2.1074 of this chapter and the following logo:

(i) If the product is authorized based on testing of the product or system; or



(ii) If a personal computer is authorized based on assembly using separately authorized components, in ac-

cordance with §15.101(c)(2) or (c)(3), and the resulting product is not separately tested:



(2) Label text and information should be in a size of type large enough to be readily legible, consistent with the dimensions of the equipment and the label. However, the type size for the text is not required to be larger than eight point.

(3) When the device is so small or for such use that it is not practicable to place the statement specified under paragraph (b)(1) of this section on it, such as for a CPU board or a plug-in circuit board peripheral device, the text associated with the logo may be placed in a prominent location in the instruction manual or pamphlet supplied to the user. However, the unique identification (trade name and model number) and the logo must be displayed on the device.

(4) The label shall not be a stick-on, paper label. The label on these products shall be permanently affixed to the product and shall be readily visible to the purchaser at the time of purchase, as described in §2.925(d) of this chapter. "Permanently affixed" means that the label is etched, engraved, stamped, silkscreened, indelibly printed, or otherwise permanently marked on a permanently attached part of the

equipment or on a nameplate of metal, plastic, or other material fastened to the equipment by welding, riveting, or a permanent adhesive. The label must be designed to last the expected lifetime of the equipment in the environment in which the equipment may be operated and must not be readily detachable.

(c) [Reserved]

(d) Consumer electronics TV receiving devices, including TV receivers, videocassette recorders, and similar devices, that incorporate features intended to be used with cable television service, but do not fully comply with the technical standards for cable ready equipment set forth in §15.118, shall not be marketed with terminology that describes the device as "cable ready" or "cable compatible," or that otherwise conveys the impression that the device is fully compatible with cable service. Factual statements about the various features of a device that are intended for use with cable service or the quality of such features are acceptable so long as such statements do not imply that the device is fully compatible with cable service. Statements relating to product features are generally

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acceptable where they are limited to one or more specific features of a device, rather than the device as a whole. This requirement applies to consumer TV receivers, videocassette recorders and similar devices manufactured or imported for sale in this country on or after October 31, 1994.

[54 FR 17714, Apr. 25, 1989, as amended at 59 FR 25341, May 16, 1994; 61 FR 18509, Apr. 26, 1996; 61 FR 31048, June 19, 1996; 62 FR 41881, Aug. 4, 1997; 63 FR 36602, July 7, 1998; 65 FR 64391, Oct. 27, 2000; 68 FR 66733, Nov. 28, 2003; 68 FR 68545, Dec. 9, 2003]

### § 15.21 Information to user.

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.

[54 FR 17714, Apr. 25, 1989, as amended at 68 FR 68545, Dec. 9, 2003]

### § 15.23 Home-built devices.

(a) Equipment authorization is not required for devices that are not marketed, are not constructed from a kit, and are built in quantities of five or less for personal use.

(b) It is recognized that the individual builder of home-built equipment may not possess the means to perform the measurements for determining compliance with the regulations. In this case, the builder is expected to employ good engineering practices to meet the specified technical standards to the greatest extent practicable. The provisions of § 15.5 apply to this equipment.

### § 15.25 Kits.

A TV interface device, including a cable system terminal device, which is marketed as a kit shall comply with the following requirements:

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(a) All parts necessary for the assembled device to comply with the technical requirements of this part must be supplied with the kit. No mechanism for adjustment that can cause operation in violation of the requirements of this part shall be made accessible to the builder.

(b) At least two units of the kit shall be assembled in exact accordance with the instructions supplied with the product to be marketed. If all components required to fully complete the kit (other than those specified in paragraph (a) of this section which are needed for compliance with the technical provisions and must be included with the kit) are not normally furnished with the kit, assembly shall be made using the recommended components. The assembled units shall be certified or authorized under the Declaration of Conformity procedure, as appropriate, pursuant to the requirements of this part.

(1) The measurement data required for a TV interface device subject to certification shall be obtained for each of the two units and submitted with an application for certification pursuant to subpart J of part 2 of this chapter.

(2) The measurement data required for a TV interface device subject to Declaration of Conformity shall be obtained for the units tested and retained on file pursuant to the provisions of subpart J of part 2 of this chapter.

(c) A copy of the exact instructions that will be provided for assembly of the device shall be submitted with an application for certification. Those parts which are not normally furnished shall be detailed in the application for equipment authorization.

(d) In lieu of the label required by § 15.19, the following label, along with the label bearing the FCC identifier and other information specified in §§ 2.925 and 2.926, shall be included in the kit with instructions to the builder that it shall be attached to the completed kit:

*(Name of Grantee)*

*(FCC Identifier)*

This device can be expected to comply with part 15 of the FCC Rules provided it is assembled in exact accordance with the instructions provided with this kit. Operation

is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

(e) For the purpose of this section, circuit boards used as repair parts for the replacement of electrically identical defective circuit boards are not considered to be kits.

[54 FR 17714, Apr. 25, 1989, as amended at 63 FR 36602, July 7, 1998]

#### § 15.27 Special accessories.

(a) Equipment marketed to a consumer must be capable of complying with the necessary regulations in the configuration in which the equipment is marketed. Where special accessories, such as shielded cables and/or special connectors, are required to enable an unintentional or intentional radiator to comply with the emission limits in this part, the equipment must be marketed with, *i.e.*, shipped and sold with, those special accessories. However, in lieu of shipping or packaging the special accessories with the unintentional or intentional radiator, the responsible party may employ other methods of ensuring that the special accessories are provided to the consumer, without additional charge, at the time of purchase. Information detailing any alternative method used to supply the special accessories shall be included in the application for a grant of equipment authorization or retained in the verification records, as appropriate. The party responsible for the equipment, as detailed in § 2.909 of this chapter, shall ensure that these special accessories are provided with the equipment. The instruction manual for such devices shall include appropriate instructions on the first page of the text concerned with the installation of the device that these special accessories must be used with the device. It is the responsibility of the user to use the needed special accessories supplied with the equipment. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the ca-

pability to access information in that form.

(b) If a device requiring special accessories is installed by or under the supervision of the party marketing the device, it is the responsibility of that party to install the equipment using the special accessories. For equipment requiring professional installation, it is not necessary for the responsible party to market the special accessories with the equipment. However, the need to use the special accessories must be detailed in the instruction manual, and it is the responsibility of the installer to provide and to install the required accessories.

(c) Accessory items that can be readily obtained from multiple retail outlets are not considered to be special accessories and are not required to be marketed with the equipment. The manual included with the equipment must specify what additional components or accessories are required to be used in order to ensure compliance with this part, and it is the responsibility of the user to provide and use those components and accessories.

(d) The resulting system, including any accessories or components marketed with the equipment, must comply with the regulations.

[54 FR 17714, Apr. 25, 1989, as amended at 68 FR 68545, Dec. 9, 2003]

#### § 15.29 Inspection by the Commission.

(a) Any equipment or device subject to the provisions of this part, together with any certificate, notice of registration or any technical data required to be kept on file by the operator, supplier or party responsible for compliance of the device shall be made available for inspection by a Commission representative upon reasonable request.

(b) The owner or operator of a radio frequency device subject to this part shall promptly furnish to the Commission or its representative such information as may be requested concerning the operation of the radio frequency device.

(c) The party responsible for the compliance of any device subject to this part shall promptly furnish to the Commission or its representatives such

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information as may be requested concerning the operation of the device, including a copy of any measurements made for obtaining an equipment authorization or demonstrating compliance with the regulations.

(d) The Commission, from time to time, may request the party responsible for compliance, including an importer, to submit to the FCC Laboratory in Columbia, Maryland, various equipment to determine that the equipment continues to comply with the applicable standards. Shipping costs to the Commission's Laboratory and return shall be borne by the responsible party. Testing by the Commission will be performed using the measurement procedure(s) that was in effect at the time the equipment was authorized or verified.

#### § 15.31 Measurement standards.

(a) The following measurement procedures are used by the Commission to determine compliance with the technical requirements in this part. Except where noted, copies of these procedures are available from the Commission's current duplicating contractor whose name and address are available from the Commission's Consumer and Governmental Affairs Bureau at 1-888-CALL-FCC (1-888-225-5322).

(1) FCC/OET MP-2: Measurement of UHF Noise Figures of TV Receivers.

(2) Unlicensed Personal Communications Service (UPCS) devices are to be measured for compliance using ANSI C63.17-2013: "American National Standard Methods of Measurement of the Electromagnetic and Operational Compatibility of Unlicensed Personal Communications Services (UPCS) Devices" (incorporated by reference, see § 15.38).

(3) Other intentional radiators are to be measured for compliance using the following procedure: ANSI C63.10-2013 (incorporated by reference, see § 15.38).

(4) Unintentional radiators are to be measured for compliance using the following procedure excluding clauses 4.5.3, 4.6, 6.2.13, 8.2.2, 9, and 13: ANSI C63.4-2014 (incorporated by reference, see § 15.38).

(b) All parties making compliance measurements on equipment subject to the requirements of this part are urged to use these measurement procedures.

Any party using other procedures should ensure that such other procedures can be relied on to produce measurement results compatible with the FCC measurement procedures. The description of the measurement procedure used in testing the equipment for compliance and a list of the test equipment actually employed shall be made part of an application for certification or included with the data required to be retained by the party responsible for devices authorized pursuant to a Declaration of Conformity or devices subject to verification.

(c) Except as otherwise indicated in § 15.256, for swept frequency equipment, measurements shall be made with the frequency sweep stopped at those frequencies chosen for the measurements to be reported.

(d) Field strength measurements shall be made, to the extent possible, on an open field site. Test sites other than open field sites may be employed if they are properly calibrated so that the measurement results correspond to what would be obtained from an open field site. In the case of equipment for which measurements can be performed only at the installation site, such as perimeter protection systems, carrier current systems, and systems employing a "leaky" coaxial cable as an antenna, measurements for verification or for obtaining a grant of equipment authorization shall be performed at a minimum of three installations that can be demonstrated to be representative of typical installation sites.

(e) For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a new battery.

(f) To the extent practicable, the device under test shall be measured at the distance specified in the appropriate rule section. The distance specified corresponds to the horizontal distance between the measurement antenna and the closest point of the

equipment under test, support equipment or interconnecting cables as determined by the boundary defined by an imaginary straight line periphery describing a simple geometric configuration enclosing the system containing the equipment under test. The equipment under test, support equipment and any interconnecting cables shall be included within this boundary.

(1) At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

(2) At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). This paragraph (f) shall not apply to Access BPL devices operating below 30 MHz.

(3) For Access BPL devices operating below 30 MHz, measurements shall be performed at the 30-meter reference distance specified in the regulations

whenever possible. Measurements may be performed at a distance closer than that specified in the regulations if circumstances such as high ambient noise levels or geographic limitations are present. When performing measurements at a distance which is closer than specified, the field strength results shall be extrapolated to the specified distance by using the square of an inverse linear distance extrapolation factor (*i.e.*, 40 dB/decade) in conjunction with the slant-range distance defined in §15.3(hh) of this part. As an alternative, a site-specific extrapolation factor derived from a straight line best fit of measurements of field strength in dB $\mu$ V/m vs. logarithmic distance in meters for each carrier frequency, as determined by a linear least squares regression calculation from measurements for at least four distances from the power line, may be used. Compliance measurements for Access BPL and the use of site-specific extrapolation factors shall be made in accordance with the Measurement Guidelines for Access BPL systems specified by the Commission. Site-specific determination of the distance extrapolation factor shall not be used at locations where a ground conductor is present within 30 meters if the Access BPL signals are on the neutral/grounded line of a power system.

(4) The applicant for a grant of certification shall specify the extrapolation method used in the application filed with the Commission. For equipment subject to Declaration of Conformity or verification, this information shall be retained with the measurement data.

(5) When measurement distances of 30 meters or less are specified in the regulations, the Commission will test the equipment at the distance specified unless measurement at that distance results in measurements being performed in the near field. When measurement distances of greater than 30 meters are specified in the regulations, the Commission will test the equipment at a closer distance, usually 30 meters, extrapolating the measured field strength to the specified distance using the methods shown in this section.

(6) Measurements shall be performed at a sufficient number of radials

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around the equipment under test to determine the radial at which the field strength values of the radiated emissions are maximized. The maximum field strength at the frequency being measured shall be reported in the equipment authorization report. This paragraph shall not apply to Access BPL equipment on overhead medium voltage lines. In lieu thereof, the measurement guidelines established by the Commission for Access BPL shall be followed.

(g) Equipment under test shall be positioned and adjusted, using those controls that are readily accessible to or are intended to be accessible to the consumer, in such a manner as to maximize the level of the emissions. For those devices to which wire leads may be attached by the operator, tests shall be performed with wire leads attached. The wire leads shall be of the length to be used with the equipment if that length is known. Otherwise, wire leads one meter in length shall be attached to the equipment. Longer wire leads may be employed if necessary to interconnect to associated peripherals.

(h) For a composite system that incorporates devices contained either in a single enclosure or in separate enclosures connected by wire or cable, testing for compliance with the standards in this part shall be performed with all of the devices in the system functioning. If an intentional radiator incorporates more than one antenna or other radiating source and these radiating sources are designed to emit at the same time, measurements of conducted and radiated emissions shall be performed with all radiating sources that are to be employed emitting. A device which incorporates a carrier current system shall be tested as if the carrier current system were incorporated in a separate device; that is, the device shall be tested for compliance with whatever rules would apply to the device were the carrier current system not incorporated, and the carrier current system shall be tested for compliance with the rules applicable to carrier current systems.

(i) If the device under test provides for the connection of external accessories, including external electrical input signals, the device shall be tested

with the accessories attached. The device under test shall be fully exercised with these external accessories. The emission tests shall be performed with the device and accessories configured in a manner that tends to produce maximized emissions within the range of variations that can be expected under normal operating conditions. In the case of multiple accessory external ports, an external accessory shall be connected to one of each type of port. Only one test using peripherals or external accessories that are representative of the devices that will be employed with the equipment under test is required. All possible equipment combinations do not need to be tested. The accessories or peripherals connected to the device being tested shall be unmodified, commercially available equipment.

(j) If the equipment under test consists of a central control unit and an external or internal accessory(ies) (peripheral) and the party verifying the equipment or applying for a grant of equipment authorization manufactures or assembles the central control unit and at least one of the accessory devices that can be used with that control unit, testing of the control unit and/or the accessory(ies) must be performed using the devices manufactured or assembled by that party, in addition to any other needed devices which the party does not manufacture or assemble. If the party verifying the equipment or applying for a grant of equipment authorization does not manufacture or assemble the central control unit and at least one of the accessory devices that can be used with that control unit or the party can demonstrate that the central control unit or accessory(ies) normally would be marketed or used with equipment from a different entity, testing of the central control unit and/or the accessory(ies) must be performed using the specific combination of equipment which is intended to be marketed or used together. Only one test using peripherals or accessories that are representative of the devices that will be employed with the equipment under test is required. All possible equipment combinations are not required to be tested. The accessories or peripherals connected to

the device being tested shall be unmodified, commercially available equipment.

(k) A composite system is a system that incorporates different devices contained either in a single enclosure or in separate enclosures connected by wire or cable. If the individual devices in a composite system are subject to different technical standards, each such device must comply with its specific standards. In no event may the measured emissions of the composite system exceed the highest level permitted for an individual component. For digital devices which consist of a combination of Class A and Class B devices, the total combination of which results in a Class A digital device, it is only necessary to demonstrate that the equipment combination complies with the limits for a Class A device. This equipment combination may not be employed for obtaining a grant of equipment authorization or verifying a Class B digital device. However, if the digital device combination consists of a Class B central control unit, e.g., a personal computer, and a Class A internal peripheral(s), it must be demonstrated that the Class B central control unit continues to comply with the limits for a Class B digital device with the Class A internal peripheral(s) installed but not active.

(l) Measurements of radio frequency emissions conducted to the public utility power lines shall be performed using a 50 ohm/50 uH line-impedance stabilization network (LISN).

(m) Measurements on intentional radiators or receivers, other than TV broadcast receivers, shall be performed and, if required, reported for each band in which the device can be operated with the device operating at the number of frequencies in each band specified in the following table:

Frequency range over which device operates	Number of frequencies	Location in the range of operation
1 MHz or less .....	1	Middle.
1 to 10 MHz .....	2	1 near top and 1 near bottom.
More than 10 MHz .....	3	1 near top, 1 near middle and 1 near bottom.

(n) Measurements on TV broadcast receivers shall be performed with the receiver tuned to each VHF frequency and also shall include the following oscillator frequencies: 520, 550, 600, 650, 700, 750, 800, 850, 900 and 931 MHz. If measurements cannot be made on one or more of the latter UHF frequencies because of the presence of signals from licensed radio stations or for other reasons to be detailed in the measurement report, measurements shall be made with the receiver oscillator at a nearby frequency. If the receiver is not capable of receiving channels above 806 MHz, the measurements employing the oscillator frequencies 900 and 931 MHz may be omitted.

(o) The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this part.

(p) In those cases where the provisions in this section conflict with the measurement procedures in paragraph (a) of this section and the procedures were implemented after June 23, 1989, the provisions contained in the measurement procedures shall take precedence.

(q) As an alternative to §15.256, a level probing radar (LPR) may be certified as an intentional radiator by showing compliance with the general provisions for operation under part 15 subpart C of this chapter, provided that the device is tested in accordance with the provisions in either paragraphs (q)(1) or (2) of this section. Compliance with the general provisions for an intentional radiator may require compliance with other rules in this part, e.g., §§15.5, 15.31, and 15.35, etc., when referenced.

(1) An LPR device intended for installation inside metal and concrete enclosures may show compliance for radiated emissions when measured outside a representative enclosure with the LPR installed inside, in accordance with the measurement guidelines established by the Commission for these devices. LPR devices operating inside these types of enclosures shall ensure that the enclosure is closed when the radar device is operating. Care shall be

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taken to ensure that gaskets, flanges, and other openings are sealed to eliminate signal leakage outside of the structure. The responsible party shall take reasonable steps to ensure that LPR devices intended for use in these types of enclosures shall not be installed in open-air environments or inside enclosures with lower radio-frequency attenuating characteristics (e.g., fiberglass, plastic, etc.). An LPR device approved under this subsection may only be operated in the type of enclosure for which it was approved.

(2) Except as provided in paragraph (q)(1) of this section, an LPR device shall be placed in testing positions that ensure the field strength values of the radiated emissions are maximized, including in the main beam of the LPR antenna.

[54 FR 17714, Apr. 25, 1989, as amended at 56 FR 13083, Mar. 29, 1991; 57 FR 24990, June 12, 1992; 57 FR 33448, July 29, 1992; 58 FR 37430, July 12, 1993; 58 FR 51249, Oct. 1, 1993; 61 FR 14502, Apr. 2, 1996; 62 FR 41881, Aug. 4, 1997; 62 FR 45333, Aug. 27, 1997; 63 FR 36602, July 7, 1998; 63 FR 42278, Aug. 7, 1998; 65 FR 58466, Sept. 29, 2000; 68 FR 68545, Dec. 9, 2003; 69 FR 54034, Sept. 7, 2004; 70 FR 1373, Jan. 7, 2005; 76 FR 71908, Nov. 21, 2011; 77 FR 4913, Feb. 1, 2012; 77 FR 43013, July 23, 2012; 79 FR 12677, Mar. 6, 2014; 80 FR 2838, Jan. 21, 2015; 80 FR 33447, June 12, 2015]

### § 15.32 Test procedures for CPU boards and computer power supplies.

Power supplies and CPU boards used with personal computers and for which separate authorizations are required to be obtained shall be tested as follows:

(a) CPU boards shall be tested as follows:

(1) Testing for radiated emissions shall be performed with the CPU board installed in a typical enclosure but with the enclosure's cover removed so that the internal circuitry is exposed at the top and on at least two sides. Additional components, including a power supply, peripheral devices, and subassemblies, shall be added, as needed, to result in a complete personal computer system. If the oscillator and the microprocessor circuits are contained on separate circuit boards, both boards, typical of the combination that would normally be employed, must be used in the test. Testing shall be in ac-

cordance with the procedures specified in § 15.31.

(i) Under these test conditions, the system under test shall not exceed the radiated emission limits specified in § 15.109 by more than 6 dB. Emissions greater than 6 dB that can be identified and documented to originate from a component(s) other than the CPU board being tested, may be dismissed.

(ii) Unless the test in paragraph (a)(1)(i) of this section demonstrates compliance with the limits in § 15.109, a second test shall be performed using the same configuration described above but with the cover installed on the enclosure. Testing shall be in accordance with the procedures specified in § 15.31. Under these test conditions, the system under test shall not exceed the radiated emission limits specified in § 15.109.

(2) In lieu of the procedure in (a)(1) of this section, CPU boards may be tested to demonstrate compliance with the limits in § 15.109 using a specified enclosure with the cover installed. Testing for radiated emissions shall be performed with the CPU board installed in a typical system configuration. Additional components, including a power supply, peripheral devices, and subassemblies, shall be added, as needed, to result in a complete personal computer system. If the oscillator and the microprocessor circuits are contained on separate circuit boards, both boards, typical of the combination that would normally be employed, must be used in the test. Testing shall be in accordance with the procedures specified in § 15.31. Under this procedure, CPU boards that comply with the limits in § 15.109 must be marketed together with the specific enclosure used for the test.

(3) The test demonstrating compliance with the AC power line conducted limits specified in § 15.107 shall be performed in accordance with the procedures specified in § 15.31 using an enclosure, peripherals, power supply and subassemblies that are typical of the type with which the CPU board under test would normally be employed.

(b) The power supply shall be tested installed in an enclosure that is typical of the type within which it would normally be installed. Additional components, including peripheral devices, a

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CPU board, and subassemblies, shall be added, as needed, to result in a complete personal computer system. Testing shall be in accordance with the procedures specified in §15.31 and must demonstrate compliance with all of the standards contained in this part.

[61 FR 31048, June 19, 1996, as amended at 62 FR 41881, Aug. 4, 1997]

**§ 15.33 Frequency range of radiated measurements.**

(a) For an intentional radiator, the spectrum shall be investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to at least the frequency shown in this paragraph:

(1) If the intentional radiator operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

(2) If the intentional radiator operates at or above 10 GHz and below 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.

(3) If the intentional radiator operates at or above 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 200 GHz, whichever is lower, unless specified otherwise elsewhere in the rules.

(4) If the intentional radiator contains a digital device, regardless of whether this digital device controls the functions of the intentional radiator or the digital device is used for additional control or function purposes other than to enable the operation of the intentional radiator, the frequency range shall be investigated up to the range specified in paragraphs (a)(1) through (a)(3) of this section or the range applicable to the digital device, as shown in paragraph (b)(1) of this section, whichever is the higher frequency range of investigation.

(b) For unintentional radiators:

(1) Except as otherwise indicated in paragraphs (b)(2) or (b)(3) of this section, for an unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to

the frequency shown in the following table:

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705 .....	30.
1.705-108 .....	1000.
108-500 .....	2000.
500-1000 .....	5000.
Above 1000 .....	5th harmonic of the highest frequency or 40 GHz, whichever is lower.

(2) A unintentional radiator, excluding a digital device, in which the highest frequency generated in the device, the highest frequency used in the device and the highest frequency on which the device operates or tunes are less than 30 MHz and which, in accordance with §15.109, is required to comply with standards on the level of radiated emissions within the frequency range 9 kHz to 30 MHz, such as a CB receiver or a device designed to conduct its radio frequency emissions via connecting wires or cables, e.g., a carrier current system not intended to radiate, shall be investigated from the lowest radio frequency generated or used in the device, without going below 9 kHz (25 MHz for CB receivers), up to the frequency shown in the following table. If the unintentional radiator contains a digital device, the upper frequency to be investigated shall be that shown in the table below or in the table in paragraph (b)(1) of this section, as based on both the highest frequency generated and the highest frequency used in the digital device, whichever range is higher.

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705 .....	30
1.705-10 .....	400
10-30 .....	500

(3) Except for a CB receiver, a receiver employing superheterodyne techniques shall be investigated from 30 MHz up to at least the second harmonic of the highest local oscillator frequency generated in the device. If such receiver is controlled by a digital

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device, the frequency range shall be investigated up to the higher of the second harmonic of the highest local oscillator frequency generated in the device or the upper frequency of the measurement range specified for the digital device in paragraph (b)(1) of this section.

(c) The above specified frequency ranges of measurements apply to the measurement of radiated emissions and, in the case of receivers, the measurement to demonstrate compliance with the antenna conduction limits specified in §15.111. The frequency range of measurements for AC power line conducted limits is specified in §§15.107 and 15.207 and applies to all equipment subject to those regulations. In some cases, depending on the frequency(ies) generated and used by the equipment, only signals conducted onto the AC power lines are required to be measured.

(d) Particular attention should be paid to harmonics and subharmonics of the fundamental frequency as well as to those frequencies removed from the fundamental by multiples of the oscillator frequency. Radiation at the frequencies of multiplier states should also be checked.

[54 FR 17714, Apr. 25, 1989, as amended at 61 FR 14502, Apr. 2, 1996; 63 FR 42278, Aug. 7, 1998]

### § 15.35 Measurement detector functions and bandwidths.

The conducted and radiated emission limits shown in this part are based on the following, unless otherwise specified elsewhere in this part:

(a) On any frequency or frequencies below or equal to 1000 MHz, the limits shown are based on measuring equipment employing a CISPR quasi-peak detector function and related measurement bandwidths, unless otherwise specified. The specifications for the measuring instrument using the CISPR quasi-peak detector can be found in Publication 16 of the International Special Committee on Radio Interference (CISPR) of the International Electrotechnical Commission. As an alternative to CISPR quasi-peak measurements, the responsible party, at its option, may demonstrate compliance with the emission limits using meas-

uring equipment employing a peak detector function, properly adjusted for such factors as pulse desensitization, as long as the same bandwidths as indicated for CISPR quasi-peak measurements are employed.

NOTE: For pulse modulated devices with a pulse-repetition frequency of 20 Hz or less and for which CISPR quasi-peak measurements are specified, compliance with the regulations shall be demonstrated using measuring equipment employing a peak detector function, properly adjusted for such factors as pulse desensitization, using the same measurement bandwidths that are indicated for CISPR quasi-peak measurements.

(b) Unless otherwise specified, on any frequency or frequencies above 1000 MHz, the radiated emission limits are based on the use of measurement instrumentation employing an average detector function. Unless otherwise specified, measurements above 1000 MHz shall be performed using a minimum resolution bandwidth of 1 MHz. When average radiated emission measurements are specified in this part, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. Unless otherwise specified, e.g., see §§15.250, 15.252, 15.253(d), 15.255, 15.256, and 15.509 through 15.519 of this part, the limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device, e.g., the total peak power level. Note that the use of a pulse desensitization correction factor may be needed to determine the total peak emission level. The instruction manual or application note for the measurement instrument should be consulted for determining pulse desensitization factors, as necessary.

(c) Unless otherwise specified, e.g., §§15.255(b), and 15.256(1)(5), when the radiated emission limits are expressed in terms of the average value of the emission, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train

does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value. The exact method of calculating the average field strength shall be submitted with any application for certification or shall be retained in the measurement data file for equipment subject to notification or verification.

[54 FR 17714, Apr. 25, 1989, as amended at 56 FR 13083, Mar. 29, 1991; 61 FR 14502, Apr. 2, 1996; 63 FR 42279, Aug. 7, 1998; 67 FR 34855, May 16, 2002; 70 FR 6773, Feb. 9, 2005; 77 FR 48102, Aug. 13, 2012; 79 FR 12678, Mar. 6, 2014]

#### § 15.37 Transition provisions for compliance with the rules.

(a) The manufacture or importation of scanning receivers, and frequency converters designed or marketed for use with scanning receivers, that do not comply with the provisions of § 15.121 shall cease on or before October 25, 1999. Effective July 26, 1999, the Commission will not grant equipment authorization for receivers that do not comply with the provisions of § 15.121. This paragraph does not prohibit the sale or use of authorized receivers manufactured in the United States, or imported into the United States, prior to October 25, 1999.

(b) Effective October 16, 2002, an equipment approval may no longer be obtained for medical telemetry equipment operating under the provisions of § 15.241 or § 15.242. The requirements for obtaining an approval for medical telemetry equipment after this date are found in subpart H of part 95 of this chapter.

(c) All radio frequency devices that are authorized under the certification, verification or declaration of conformity procedures on or after July 12, 2004 shall comply with the conducted limits specified in § 15.107 or § 15.207 as appropriate. All radio frequency devices that are manufactured or imported on or after July 11, 2005 shall comply with the conducted limits specified in § 15.107 or § 15.207, as appropriate. Equipment authorized, im-

ported or manufactured prior to these dates shall comply with the conducted limits specified in § 15.107 or § 15.207, as appropriate, or with the conducted limits that were in effect immediately prior to September 9, 2002.

(d) Radar detectors manufactured or imported after August 28, 2002 and marketed after September 27, 2002 shall comply with the regulations specified in this part. Radar detectors manufactured or imported prior to January 27, 2003 may be labeled with the information required by § 2.925 of this chapter and § 15.19(a) on the individual equipment carton rather than on the device, and are exempt from complying with the requirements of § 15.21.

(e) U-NII equipment operating in the 5.25–5.35 GHz band for which applications for certification are filed on or after July 20, 2006 shall comply with the DFS and TPC requirements specified in § 15.407. U-NII equipment operating in the 5.25–5.35 GHz band that are imported or marketed on or after July 20, 2007 shall comply with the DFS and TPC requirements in § 15.407.

(f) All Access BPL devices that are manufactured, imported, marketed or installed on or after July 7, 2006, shall comply with the requirements specified in subpart G of this part, including certification of the equipment.

(g) The manufacture or importation of auditory assistance devices that operate in the 72.0–73.0 MHz, 74.6–74.8 MHz, and 75.2–76.0 MHz bands that do not comply with the requirements of § 15.237(c) shall cease on or before July 11, 2016. Effective January 12, 2015, equipment approval will not be granted for auditory assistance devices that operate in the 72.0–73.0 MHz, 74.6–74.8 MHz, and 75.2–76.0 MHz bands that do not comply with the requirements of § 15.237(c). These rules do not prohibit the sale or use of authorized auditory assistance devices that operate in the 72.0–73.0 MHz, 74.6–74.8 MHz, and 75.2–76.0 MHz bands manufactured in the United States, or imported into the United States, prior to July 11, 2016.

(h) Effective June 2, 2015 devices using digital modulation techniques in the 5725–5850 MHz bands will no longer be certified under the provisions of § 15.247. The technical requirements for obtaining certification after this date

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for digitally modulated devices and the digitally modulated portion of hybrid devices are found in subpart E of this part. The provisions for the frequency hopping spread spectrum portion of hybrid devices will remain in §15.247. Effective June 2, 2016 systems using digital modulation techniques in the 5725–5850 MHz band certified under the provisions of §15.247 may no longer be imported or marketed within the United States.

[77 FR 4913, Feb. 1, 2012, as amended at 78 FR 34927, June 11, 2013; 79 FR 24578, May 1, 2014]

### § 15.38 Incorporation by reference.

(a) The materials listed in this section are incorporated by reference in this part. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of the approval, and notice of any change in these materials will be published in the FEDERAL REGISTER. The materials are available for purchase at the corresponding addresses as noted, and all are available for inspection at the Federal Communications Commission, 445 12th St. SW., Reference Information Center, Room CY-A257, Washington, DC 20554, (202) 418-0270, and at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

(b) The following documents are available from the following address: American National Standards Institute (ANSI), 25 West 43rd Street, 4th Floor, New York, NY 10036, (212) 642-4900, or at <http://webstore.ansi.org/ansidocstore/default.asp>;

(1) ANSI C63.17-2013: “American National Standard for Methods of Measurement of the Electromagnetic and Operational Compatibility of Unlicensed Personal Communications Services (UPCS) Devices,” approved August 12, 2013, IBR approved for §15.31.

(2) Third Edition of the International Special Committee on Radio Interference (CISPR), Pub. 22, Information Technology Equipment-Radio Disturb-

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ance Characteristics-Limits and Methods of Measurement,” 1997, IBR approved for §15.09.

(c) The following documents are available from the following address: Cable Television Laboratories, Inc., 858 Coal Creek Circle, Louisville, Colorado, 80027, <http://www.cablelabs.com/opencable/udcp>, (303) 661-9100;

(1) M-UDCP-PICS-I04-080225, “Uni-Directional Cable Product Supporting M-Card; Multiple Profiles; Conformance Checklist: PICS,” February 25, 2008, IBR approved for §15.123(c).

(2) TP-ATP-M-UDCP-I05-20080304, “Uni-Directional Digital Cable Products Supporting M-Card; M-UDCP Device Acceptance Test Plan,” March 4, 2008, IBR approved for §15.123(c).

(d) The following documents are available from the following address: Consumer Electronics Association, 1919 S. Eads St., Arlington, VA 22202, <http://www.ce.org/Standards/Standard-Listings.aspx>, (703) 907-7634.

(1) CEA-542-B: “CEA Standard: Cable Television Channel Identification Plan,” July 2003, IBR approved for §15.118.

(2) CEA-766-A: “U.S. and Canadian Region Rating Tables (RRT) and Content Advisory Descriptors for Transport of Content Advisory Information using ATSC A/65-A Program and System Information Protocol (PSIP),” April 2001, IBR approved for §15.120.

(3) Uni-Dir-PICS-I01-030903: “Uni-Directional Receiving Device: Conformance Checklist: PICS Proforma,” September 3, 2003, IBR approved for §15.123(c).

(4) Uni-Dir-ATP-I02-040225: “Uni-Directional Receiving Device, Acceptance Test Plan,” February 25, 2004, IBR approved for §15.123(c).

(e) The following documents are available from the following address: Global Engineering Documents, 15 Inverness Way East, Englewood, CO 80112, (800) 854-7179, or at <http://global.ihs.com>;

(1) EIA-608: “Recommended Practice for Line 21 Data Service,” 1994, IBR approved for §15.120.

(2) EIA-744: “Transport of Content Advisory Information Using Extended Data Service (XDS),” 1997, IBR approved for §15.120.

(f) Institute of Electrical and Electronic Engineers (IEEE), 3916 Ranchero

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Drive, Ann Arbor, MI 48108, 1-800-699-9277, <http://www.techstreet.com/ieee>.

(1) ANSI C63.4-2014: “American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz,” ANSI approved June 13, 2014, IBR approved for §15.31(a)(4), except clauses 4.5.3, 4.6, 6.2.13, 8.2.2, 9, and 13.

(2) ANSI C63.10-2013, “American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices,” ANSI approved June 27, 2013, IBR approved for §15.31(a)(3).

(g) The following documents are available from the following addresses: Society of Cable Telecommunications Engineers (SCTE) c/o Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado 80112 or the American National Standards Institute, 25 West 43rd Street, Fourth Floor, New York, NY 10036 or at <http://www.scte.org/standards/index.cfm>;

(1) SCTE 28 2003 (formerly DVS 295): “Host-POD Interface Standard,” 2003, IBR approved for §15.123.

(2) SCTE 40 2003 (formerly DVS 313): “Digital Cable Network Interface Standard,” 2003, IBR approved for §15.123.

(3) SCTE 41 2003 (formerly DVS 301): “POD Copy Protection System,” 2003, IBR approved for §15.123.

(4) ANSI/SCTE 54 2003 (formerly DVS 241): “Digital Video Service Multiplex and Transport System Standard for Cable Television,” 2003, IBR approved for §15.123.

(5) ANSI/SCTE 65 2002 (formerly DVS 234): “Service Information Delivered Out-of-Band for Digital Cable Television,” 2002, IBR approved for §15.123.

[77 FR 43013, July 23, 2012, as amended at 80 FR 2838, Jan. 21, 2015; 80 FR 33447, June 12, 2015]

**Subpart B—Unintentional Radiators**

**§ 15.101 Equipment authorization of unintentional radiators.**

(a) Except as otherwise exempted in §§15.23, 15.103, and 15.113, unintentional radiators shall be authorized prior to the initiation of marketing, as follows:

Type of device	Equipment authorization required
TV broadcast receiver .....	Verification.
FM broadcast receiver .....	Verification.
CB receiver .....	Declaration of Conformity or Certification.
Superregenerative receiver .....	Declaration of Conformity or Certification.
Scanning receiver .....	Certification.
Radar detector .....	Certification.
All other receivers subject to part 15 .....	Declaration of Conformity or Certification.
TV interface device .....	Declaration of Conformity or Certification.
Cable system terminal device .....	Declaration of Conformity.
Stand-alone cable input selector switch .....	Verification.
Class B personal computers and peripherals .....	Declaration of Conformity or Certification. <sup>1</sup>
CPU boards and internal power supplies used with Class B personal computers.	Declaration of Conformity or Certification. <sup>1</sup>
Class B personal computers assembled using authorized CPU boards or power supplies.	Declaration of Conformity.
Class B external switching power supplies .....	Verification.
Other Class B digital devices & peripherals .....	Verification.
Class A digital devices, peripherals & external switching power supplies.	Verification.
Access Broadband over Power Line (Access BPL) .....	Certification.
All other devices .....	Verification.

(b) Only those receivers that operate (tune) within the frequency range of 30–960 MHz, CB receivers and radar detectors are subject to the authorizations shown in paragraph (a) of this section. However, receivers indicated as being subject to Declaration of Conformity that are contained within a transceiver, the transmitter portion of

which is subject to certification, shall be authorized under the verification procedure. Receivers operating above 960 MHz or below 30 MHz, except for radar detectors and CB receivers, are exempt from complying with the technical provisions of this part but are subject to §15.5.